REMARKS

Claims 1-17 are pending in the application and are subject to rejection. Claims 1, 2 and 9 have been amended and new claims 15-17 have been added.

Claim 1 has been amended to delete "a middle layer having a non-magnetic powder dispersed in a binder (1), the middle layer being provided as necessary;" since the middle layer is an optional layer. Claim 2 has been amended to recite that the middle layer has a non-magnetic powder dispersed in a binder (1). Claim 9 has been amended to depend from claim 2 instead of claim 1. Support for new claims 15-17 can be found, for example, at page 22, line 20, page 27, line 7 to page 28, line 10, page 31, second and third paragraphs, page 36, line 12, and in Examples 12 and 13.

Entry of the above amendments is respectfully requested.

I. Response to Rejection of Claim 2 under 35 U.S.C. § 112, second paragraph

At page 2 of the Office Action, claim 2 is rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Specifically, the Examiner asserts that claim 2 does not further limit claim 1.

The magnetic recording medium of the present invention can have two kinds of layer arrangements as described below, embodiments comprising a middle layer or omitting a middle layer. Thus, the middle layer is an optional layer.

In an embodiment where there is no middle layer, the magnetic recording medium comprises a non-magnetic support and, in order on the support, a radiation-cured layer formed by curing a layer containing a radiation curing compound by exposure to radiation, and at least one magnetic layer having a ferromagnetic fine powder and a binder (2) dispersed therein. The

radiation curing compound has a hydroxyl group and a radiation curing functional group in the molecule, and the magnetic layer having on the surface thereof a number of micro projections having a height of 10 to 20 nm measured by atomic force microscopy (AFM) of 5 to 1,000/100 $(\mu m)^2$.

On the other hand, in an embodiment where there is a middle layer, the magnetic recording medium comprises a non-magnetic support and, in order on the support, a radiation-cured layer formed by curing a layer containing a radiation curing compound by exposure to radiation, a middle layer containing a non-magnetic powder and a binder (1), and at least one magnetic layer having a ferromagnetic fine powder and a binder (2) dispersed therein. The radiation curing compound has a hydroxyl group and a radiation curing functional group in the molecule, and the magnetic layer having on the surface thereof a number of micro projections having a height of 10 to 20 nm measured by atomic force microscopy (AFM) of 5 to 1,000/100 $(\mu m)^2$.

The present invention provides a magnetic recording medium having excellent transport durability, coating smoothness, electromagnetic conversion characteristics and long-term storability.

Since a middle layer is optional in the magnetic recording medium of claim 1, the recitation "a middle layer having a non-magnetic powder dispersed in a binder (1), the middle layer being provided as necessary;" has been deleted, and claim 2 has been amended to define the middle layer as having a non-magnetic powder dispersed in binder (1).

In view of the above, withdrawal of the rejection is respectfully requested.

II. Response to Rejection of Claims 1-14 under 35 U.S.C. § 103(a)

At pages 2-4 of the Office Action, claims 1-14 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Inaba et al. (US Patent 6,074,724) in view of any one or more of Nishimatsu et al. (US Patent 4,596,747), Shimozawa et al. (US Patent 4,746,558) and Bilkadl (US Patent 5,639,546).

Applicants respectfully traverse the rejection.

The present invention provides a magnetic recording medium having excellent durability, coating smoothness, excellent electromagnetic conversion characteristics and long-term storability by decreasing the number of projections on the surface of the magnetic layer by burying the projections on the surface of a non-magnetic support by the use of a OH-group containing radiation-cured compound in the radiation-cured layer.

The Examiner acknowledges that Inaba does not specifically disclose a radiation-cured layer formed by curing a compound having a hydroxyl group and a radiation curing functional group in the molecule and cites Nishimatsu, Shimozawa and/or Bilkadi to make up for the deficiency.

To support an obviousness rejection, there must be some teaching or suggestion in the prior art, and a mere teaching by itself is not sufficient to provide motivation for one skilled in the art to arrive at the claimed invention. In this case, Nishimatsu, Shimozawa and Bilkadi do not disclose any advantage/benefit of using a radiation-curing compound having a hydroxyl group. Indeed, Nishimatsu, Shimozawa or Bilkadi do not teach, for example, that radiation curable compounds having a hydroxyl group are preferred. Therefore, the cited secondary

references do not provide any incentive for selecting a radiation curing compound having a hydroxyl group from the various radiation curing materials described therein.

In addition, an object of Nishimatsu is to provide a magnetic recording medium of a low electrostatic property where the electroconductive material (such as carbon black) is dispersed only in the primer layer and not in the magnetic layer, and a backing layer where carbon black is dispersed therein is not taught. *See* col. 2, lines 41-45 and 63-64. Inaba's magnetic layer and lower layer comprise carbon black, as illustrated in Examples 4-6, and a backing layer having carbon black. *See* col. 26, line 36 to col. 27, line 40. Therefore, one of ordinary skill in the art would not be motivated to incorporate Nishimatsu's primer layer into Inaba's second embodiment.

Thus, the present invention is not *prima facie* obvious in view of the cited references.

Further, based on the disclosure of the secondary references, one of ordinary skill in the art would not have expected the superior results of the present invention based on use of a radiation-curable compound having at least one hydroxyl group versus a radiation-curable compound without any hydroxyl groups. That is, the present invention comprising the radiation-cured layer of a specific radiation curable compound provides excellent adhesion, excellent transportability, reduced tackiness and excellent electromagnetic conversion characterists. *See e.g.,* pages 4 and 31 of the present specification. Particularly, when compared to recording media having a radiation-cured layer comprising a radiation curable compound that does not have a hydroxyl group, the present invention exhibited superior properties. *See* Table 1 at page 40.

For the foregoing reasons, withdrawal of the rejection is respectfully requested.

III. Conclusion

In view of the above, reconsideration and withdrawal of the §112 and 103 rejections, and allowance of claims 1-17 are respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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